# SOP: Azure SQL with TDE, Key Vault, and Transaction Monitoring

This SOP provides a step-by-step guide for setting up Azure SQL Server with Transparent Data Encryption (TDE) using Azure Key Vault, enabling Microsoft Defender for SQL, and configuring a Logic App for transaction monitoring.

## 1. Prerequisites

- Azure Subscription with Contributor or Owner role  
- Azure Key Vault  
- Azure Logic App  
- Email account for notifications

## 2. SQL Server & Database Setup

1. Create a new SQL Server in Azure Portal.  
2. Create a new database on the SQL Server.  
3. Enable Transparent Data Encryption (TDE) for the database.

## 3. Key Vault Configuration

1. Add an access policy in Azure Key Vault:  
 - Assign Key Vault Crypto User to SQL Server's system-assigned managed identity.  
 - Assign Key Vault Administrator to the user creating the database.  
2. Generate or import a key for TDE.

## 4. Enable Microsoft Defender for SQL

1. Go to SQL Server > Security > Microsoft Defender for SQL.  
2. Enable it and configure alert settings.

## 5. Logic App for Transaction Monitoring

1. Create a Logic App with a SQL trigger for monitoring transactions.  
2. Add a condition to check if transaction value > threshold.  
3. If condition is met, send an email notification.

## 6. Testing

1. Insert a sample transaction exceeding the threshold.  
2. Verify that the Logic App triggers and sends an email notification.